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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/691,851	10/23/2003	Syuji Tsukamoto	890050.442	6716
500 7590 01/02/2008 SEED INTELLECTUAL PROPERTY LAW GROUP PLLC 701 FIFTH AVE SUITE 5400 SEATTLE, WA 98104				
			EXAMINER ELVE, MARIA ALEXANDRA	
			ART UNIT 1793	PAPER NUMBER
			MAIL DATE 01/02/2008	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

### Application No.

10/691,851

### Applicant(s)

TSUKAMOTO ET AL.

### Examiner

M. Alexandra Elve

### Art Unit

1793

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on claims 4/24/07.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3,7 and 10-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,7 and 10-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

*Prosecution has been reopened in light of newly found prior art.*

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 7 & 10-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Horie et al. (USPN 5,581,539).

Horie et al. discloses:

The disclosure describes an optical recording medium for recording, erasing and reading-out information by irradiation a laser beam, comprising: a lower dielectric protective layer, a phase-change-type recording layer, an upper dielectric protective layer and a metal reflective layer successively deposited on a transparent substrate formed with grooves, in which both of grooves and lands are used as a recorded region, a groove depth (d) ... and a groove width (GW) and a land width (LW) ... (abstract)

Generally in a writable phase-change recording medium, a laser beam of two different power levels is used for attaining different crystal states. (col. 1, lines 55-60)

In an optical disk, lands and grooves are formed alternately in a radial direction coaxially or spirally and a focused light is guided by utilizing a diffracted light from the portions. The system includes a push-pull tracking-servo system of utilizing a radial difference of an intensity of a reflected light from an optical disk, namely, utilizing a diffracted light from a land or groove detecting 0th and 1st diffracted light by two splitted

detectors, thereof (I1-I2 signal), and a 3-beam system using three splitted optical beams arranged in parallel in a radial direction and guiding a focused light by the calculation of the intensity of the reflected light for each of beams at three detector positions, that is, a land and grooves on both sides thereof or a groove and lands on both sides thereof. Further, the radial movement in such an optical disk is conducted by a system of counting the number of tracks passed by a cross track signal (I1+I2) and approaching an aimed track. In a usual optical disk, since recording/reading-out is performed only to the lands or only to the grooves, the width of the land (or groove) used for recording is made wider usually by about twice compared with that of the groove (or land) not used for recording. For further increasing the capacity, a system of recording/reading-out in both of the land and the groove is also considered. The capacity of the optical disk is doubled by recording both in the land and the groove. (col. 2, lines 62-67, col. 3, lines 1-18)

It is an object of the present invention to provide a high density optical disk with a high reliability, particularly, an L&G recording type optical disk using a laser beam as a light source, capable of keeping repetitive overwriting characteristic to a high level both for the lands and the grooves in a case if at least lands and grooves are used as the recording region.

Another object of the present invention is to provide a high density optical disk, particularly, an L&G recording type optical disk capable of eliminating loss of balance of the carrier levels of the recording marks between the lands and the grooves, and capable of obtaining equally high signal quality upon recording to either of the lands and the grooves. (col. 7, lines 32-45)

The substrate for the recording medium in the present invention may be any of glass, plastic (for example, polycarbonate, polyolefin) or glass forming a known photosetting resin film.

For forming fine guide grooves on the substrate, a convex shape on a Ni stamper is transferred to the substrate by injection molding.

The convex shape on the stamper is formed by cutting a photoresist by a laser beam. The fine grooves can be formed usually by using an Ar laser at a wavelength of 468 nm as a laser beam source for cutting. Further, fine grooves are formed by disposing a mask to an opening of a laser beam focusing lens, or using, for example, a He-Cd laser (wavelength: 441 nm) or Kr laser (wavelength: 407 nm).

In a case of a substrate having a wide groove width used so far met is sometimes necessary to oscillate a cutting laser beam, but this is not necessary for forming the guide grooves in the present invention, and accordingly, the cutting is facilitated. (col. 14, lines 28-47)

For recording, erasure and reading-out of the optical disk according to the present invention, a laser beam focused by an objective lens is used and irradiated from the side of a substrate of a rotating optical disk. (col. 16, lines 14-17)

A laser beam (10) focused by using an objective lens or the like is irradiated from the side of the substrate (1) to the disk for performing recording, erasure and reading-out. (col. 17, lines 15-17)

In the present invention, the land width is defined as within a range from  $0.62(\lambda/NA)$  to  $0.80(\lambda/NA)$ , in which  $\lambda$  represents the wavelength of the irradiated beam and NA is a numerical aperture of an objective lens. (col. 17, lines 40-45)

Therefore, upon reading-out the information recording medium, the **3-beam system** can be utilized in addition to the push-pull system, and divided push-pull system as the tracking system, and the cross track signal can be used for counting the number of tracks passed upon radial movement. (col. 21, lines 48-49)

The multilayer constitution as shown in the FIG. 1 is formed on a transparent resin or glass substrate to light used for recording and reading-out. (col. 23, lines 35-37)

Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. Alexandra Elve whose telephone number is 571-272-1173. The examiner can normally be reached on 7:30-4:00 Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jonathan Johnson can be reached on 571-272-1177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

December 26, 2007.

/M. Alexandra Elve/  
M. Alexandra Elve  
Primary Examiner 1793.